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Ensuring correct A/C compressor oil filling quantities

When replacing an air conditioning compressor, there are some important points you need to take into account to prevent direct failure of the new compressor and consequential damage to the air conditioning circuit.

Flushing

The system must be thoroughly flushed when the air conditioning compressor is replaced, or if the refrigerant circuit contains contaminants. Depending on the contamination level, use of refrigerant R134a or R1234yf, or a special flushing solution, is recommended. Since air conditioning components like the filter-drier (accumulator) and the expansion or throttle valve can't be flushed, these must be removed before flushing and replaced afterward. Only then will the air conditioning circuit be completely free of refrigerant oil and any contaminants.

Refrigerant oil

New MAHLE air conditioning compressors are prefilled with refrigerant oil as standard. As one air conditioning compressor may be used for different vehicles or systems, it's crucial to check—and, if necessary, adjust—the oil filling quantity before installing the compressor.

To do this, use the drain screw to drain off the oil into a clean container, then measure it (see Figure 1). Then top off or reduce the amount of collected oil with fresh oil according to the manufacturer's guidelines. Always follow the relevant oil specification.

In the next step, pour the complete amount of refrigerant oil back into the air conditioning compressor and refit the drain screw using a new seal (see Figure 2).

To ensure that the shaft seal ring is optimally lubricated, stand the air conditioning compressor vertically (with the belt pulley facing



Figure 1: Drain the oil from the new compressor and determine oil quantity.



Figure 2: Pour the correct amount of oil for the system into the compressor and then reseal it.

downwards) for three minutes before installation and then, with the compressor horizontal, rotate the belt pulley ten times by hand.

You can find detailed information as a video by clicking on the links below, or on our MAHLE YouTube channel:

[>> Replacing the air conditioning compressor](#)

[>> Flushing the refrigerant circuit](#)

Further useful documents, such as our "Replacing the A/C compressor and flushing the A/C system" and "A/C compressor oil" brochures as well as the "Refrigerant and oil filling quantities" manual, can be found in our online Media Center at mahle-aftermarket.com.

IMPORTANT!

There are a few air conditioning compressor types that have no drain screw, making draining and adjusting the refrigerant oil impossible. These air conditioning compressors are supplied complete with the correct quantity of refrigerant oil for the vehicle in question. The air conditioning circuit must be flushed before installation to prevent overfilling.